<table>
<thead>
<tr>
<th></th>
<th>Author</th>
<th>Sex</th>
<th>Site</th>
<th>Diagnosis</th>
<th>Immunohistochemistry</th>
<th>S-100</th>
<th>NSE</th>
<th>CD 68</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Charrier JB [27]</td>
<td>Male=1</td>
<td>mandibular ridge</td>
<td>CGCT</td>
<td>Positive S-100</td>
<td>+</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>3.</td>
<td>Adeyemi Bukola, et al. [28]</td>
<td>Female=1</td>
<td>Anterior mandibular ridge</td>
<td>CGCT</td>
<td>Strongly Positive for Vimentin and NSE; locally and weakly for S-100; Negative for Desmin and Cytokeratin AE1/AE3</td>
<td>+</td>
<td>+</td>
<td>NA</td>
</tr>
<tr>
<td>4.</td>
<td>Hasanov A, et al. [29]</td>
<td>Female=1</td>
<td>Mandibular alveolus.</td>
<td>CGCT</td>
<td>No PAS positivity in the tumor. S100, CD68, desmin, MSA, myogenin, SMA and NSE were also negative.</td>
<td>-</td>
<td>-</td>
<td>NA</td>
</tr>
<tr>
<td>5.</td>
<td>Pellicano M, et al. [30]</td>
<td>Female=1</td>
<td>Alveolar process of the maxilla</td>
<td>CGCT</td>
<td>Periodic acid-Schiff (PAS)-negative but positive to the S100 protein</td>
<td>+</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>6.</td>
<td>Damm DD, et al. [22]</td>
<td>Female=1</td>
<td>Gingiva of the anterior maxilla</td>
<td>CGCT</td>
<td>Negative for S100 protein immunostain</td>
<td>-</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>7.</td>
<td>Pinto JGS, et al. [31]</td>
<td>Female=1</td>
<td>Left side of the mandibular alveolar ridge</td>
<td>CGCT</td>
<td>Negative for protein S100</td>
<td>-</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>8.</td>
<td>Sigdel B, et al. [32]</td>
<td>Female=1</td>
<td>maxillary alveolar ridge</td>
<td>CGCT</td>
<td>The tumor cells were negative for Periodic acid-Schiff (PAS) stain. Immunohistochemical evaluation was as follows: Vimentin: Strongly positive (fig. 6), NSE: Positive, CD68: Positive. Cytokeratin, Desmin, CEA, ER, PR, S-100 protein: Negative.</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>9.</td>
<td>Oslon JL, et al. [33]</td>
<td>Female=1</td>
<td>Left maxillary alveolar ridge</td>
<td>CGCT</td>
<td>Negative for S-100 staining</td>
<td>-</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>10</td>
<td>Childers EL, et al. [34]</td>
<td>Female=1</td>
<td>Nine lesions were in females; 1 case did not designate patient sex=10</td>
<td>CGCT</td>
<td>All cases were negative for S-100 protein. CD68, CD34, CD31, keratins, desmin, calponin, and smooth muscle actin.</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>Tellado MG, et al. [35]</td>
<td>Case 1- Male=1</td>
<td>canine region right maxilla right maxillary region</td>
<td>CGCT</td>
<td>The S100 was negative.</td>
<td>-</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Case Number</td>
<td>Author(s)</td>
<td>Gender</td>
<td>Location</td>
<td>CGCT</td>
<td>Immunostaining Details</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>12.</td>
<td>Abo-Hager EA, et al. [36]</td>
<td>Female=6</td>
<td>All cases were from the anterior maxillary alveolar ridge</td>
<td>CGCT</td>
<td>All tumors were positive for NSE, granular cells showed a cytoplasmic immunostaining for NSE. The granular cells in all cases - positive immunostaining for CD68. The interstitial cells (five) immunopositivity for CD99. Granular and interstitial cells in all cases - negative with the remaining antibodies (Mesothelin, Inhibin-α, GFAP, Dystrophin, NGFR/p75 and TLR1).</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13.</td>
<td>Rehman MU, et al. [37]</td>
<td>Female =1</td>
<td>Gingiva of maxilla</td>
<td>CGCT</td>
<td>Negative for immunostaining by S100, CKAE1/AE3, actin, and desmin. Tumor cells were reactive for CD68, a macrophage marker</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15.</td>
<td>Lapid O, et al. [38]</td>
<td>Female=1</td>
<td>gingiva of the left maxilla</td>
<td>CGCT</td>
<td>Positively with Periodic acid-Schiff reagent and the staining was not removed by pretreatment with diastase. The Diffusely and strongly positive for vimentin, and negative for S100-protein, actin, desmin, laminin, keratin, estrogen, and progesterone receptors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>Okina T, et al. [40]</td>
<td>7-day-old female=1</td>
<td>Gingiva of the lower jaw on the alveolus of the lower deciduous incisors,</td>
<td>CGCT</td>
<td>Weakly PAS positive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Anderson AJ, et al. [41]</td>
<td>Female=1</td>
<td>Anterior maxillary alveolus</td>
<td>CGCT</td>
<td>Positive for actin and myosin but not S100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>Dzieniecka M, et al. [42]</td>
<td>Female=1</td>
<td>Anterior ridge of the maxilla.</td>
<td>CGCT</td>
<td>Negative for S-100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>Leocata P, et al. [42] [18]</td>
<td>Male=1</td>
<td>Anterior maxillary ridge</td>
<td>CGCT</td>
<td>Positivity was observed only for vimentin, whereas desmin appeared focally and moderately positive. Alpha-fetoprotein; carcino-embryonic antigen (CEA); macrophage marker;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Kayiran SM, et al. [43]</td>
<td>Female=1</td>
<td>anterior ventral surface of the tongue</td>
<td>CGCT</td>
<td>S-100 did not show any positivity, and CD34 staining emphasized a prominent vascularity.</td>
<td>-</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
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<td>--------------------------</td>
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</tr>
<tr>
<td>22. Prigkos AC, et al. [44]</td>
<td>Male=1</td>
<td>Mandibular alveolar ridge</td>
<td>CGCT</td>
<td>Intensely positive for vimentin and NSE Negative for pan-keratin, S-100 protein, carcinoembryonic antigen (CEA), glial fibrillary acidic protein (GFAP), smooth muscle actin, muscle specific actin (HHF35), desmin, CD68, and CD31. Smooth muscle actin, muscle specific actin (HHF35). CD31 revealed a complex network of vascular channel.</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>24. Filie AC, et al. [46]</td>
<td>Out 10 case, 3 Congenital granular cell tumors.</td>
<td>NA</td>
<td>CGCT</td>
<td>All of the GCTs were negative for keratin, smooth muscle actin, muscle-specific actin, desmin, CD57, CD15, and MAC387 Congenital GCTs, on the other hand, were negative for S100 and NSE but positive for A1AT, CD68, and vimentin.</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>25. Kaiserling E, et al. [47]</td>
<td>Four Granular cell tumor- Two congenital epulis</td>
<td>NA</td>
<td>CGCT</td>
<td>CGCT was positive for CD68+, Ki-M1P+, lysozyme-, vimentin+, fibronectin+, laminin+, lectin PHAE+, and lectin WGA+ 1 Congenital epulis was weakly positive for S-100 (other was negative)</td>
<td>+</td>
<td>NA</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>26. Vered M, et al. [19]</td>
<td>Five CGCEs cases</td>
<td>NA</td>
<td>CGCT</td>
<td>Positivity of these cells to vimentin, NKI/C3, and PGP9.5. Non-reactive for S-100, NGFR/p75, and inhibin-alpha</td>
<td>-</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>27. Takahashi H, et al. [48]</td>
<td>Three cases</td>
<td>NA</td>
<td>CGCT</td>
<td>Neoplastic cell- Positive for Neuron-specific enolase (NSE) and vimentin. However, all other reactions were negative. Interstitial cell strong S-100 protein-, cytokeratin-, vimentin-, and NSE-immunostainings, and these cells are consistent with neuroendocrine nature.</td>
<td>-</td>
<td>+</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>
Positive immunostaining was found for S-100 protein and neuron-specific enolase in all the cases of myoblastoma, and for vimentin and carcinoembryonic antigen in some cases. No immunoreactivity was observed for any of the other 13 antibodies used in congenital epulis.

<table>
<thead>
<tr>
<th>Case</th>
<th>Authors</th>
<th>Age</th>
<th>Sex</th>
<th>Location</th>
<th>Localization</th>
<th>Antibodies</th>
<th>Immunoreactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>28.</td>
<td>Luis M, et al. [49]</td>
<td>Two cases</td>
<td>NA</td>
<td>CGCT</td>
<td>Positive immunostaining was found for S-100 protein and neuron-specific enolase in all the cases of myoblastoma, and for vimentin and carcinoembryonic antigen in some cases. No immunoreactivity was observed for any of the other 13 antibodies used in congenital epulis.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td>Messina M, et al. [50]</td>
<td>Male</td>
<td>Lateral to oral cavity close to tongue</td>
<td>CGCT</td>
<td>NA</td>
<td>No</td>
<td>NA</td>
</tr>
<tr>
<td>30.</td>
<td>Majid ZA, et al. [51]</td>
<td>Female</td>
<td>Right side Maxillary alveolar ridge</td>
<td>CGCT</td>
<td>NA</td>
<td>No</td>
<td>NA</td>
</tr>
<tr>
<td>31.</td>
<td>Hoyme HE, et al. [52]</td>
<td>NA</td>
<td>NA</td>
<td>CGCT</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>32.</td>
<td>Raisissak MT, et al. [53]</td>
<td>Female</td>
<td>Maxillary alveolar ridge</td>
<td>CGCT</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>33.</td>
<td>Taylor P, et al. [54]</td>
<td>Female</td>
<td>Midline attached to gingival of maxilla</td>
<td>CGCT</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>34.</td>
<td>McMahon MG, et al. [55]</td>
<td>Female</td>
<td>Anterior maxilla</td>
<td>CGCT</td>
<td>NA</td>
<td>+</td>
<td>NA</td>
</tr>
<tr>
<td>36.</td>
<td>Lopez de Lacalle JM, et al [56]</td>
<td>NA</td>
<td>NA</td>
<td>CGCT</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>37.</td>
<td>Szlachetka K, et al. [57]</td>
<td>Female</td>
<td>Mandible</td>
<td>CGCT</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>38.</td>
<td>Bornstein E, et al. [58]</td>
<td>Female</td>
<td>Anterior to tongue-left mandibular ridge</td>
<td>CGCT</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>40.</td>
<td>JM Su, et al [22]</td>
<td>Female</td>
<td>right side of the midline and was found to be attached to the gingival of the anterior alveolar ridge of the mandible</td>
<td>CGCT</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>41.</td>
<td>Lu W, et al.</td>
<td>Female</td>
<td>Solitary Mandibular 2.5</td>
<td>CGCT</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>[59]</td>
<td>x 2 x 2 cm</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>43.</td>
<td>Charrier, JB. [27]</td>
<td>Male</td>
<td>mandibular ridge</td>
<td>CGCT</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44.</td>
<td>Shaw L, et al. [60]</td>
<td>Female</td>
<td>alveolar ridge of the mandible</td>
<td>CGCT</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45.</td>
<td>Thoma V, et al. [61]</td>
<td>-</td>
<td>-</td>
<td>CGCT</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46.</td>
<td>Yvonne Nam RT. [62]</td>
<td>-</td>
<td>-</td>
<td>CGCT</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47.</td>
<td>Meizner I, et al. [63]</td>
<td>-</td>
<td>-</td>
<td>CGCT</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.</td>
<td>Hulett RL, et al. [64]</td>
<td>NA</td>
<td>NA</td>
<td>CGCT</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49.</td>
<td>Fister P, et al. [6]</td>
<td>Female</td>
<td>Maxillary Alveolus left to midline</td>
<td>CGCT</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50.</td>
<td>Song WS, et al. [16]</td>
<td>Female</td>
<td>Mandibular alveolar ridge</td>
<td>CGCT</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* (Total = 55 cases in which information about IHC was retrieved)